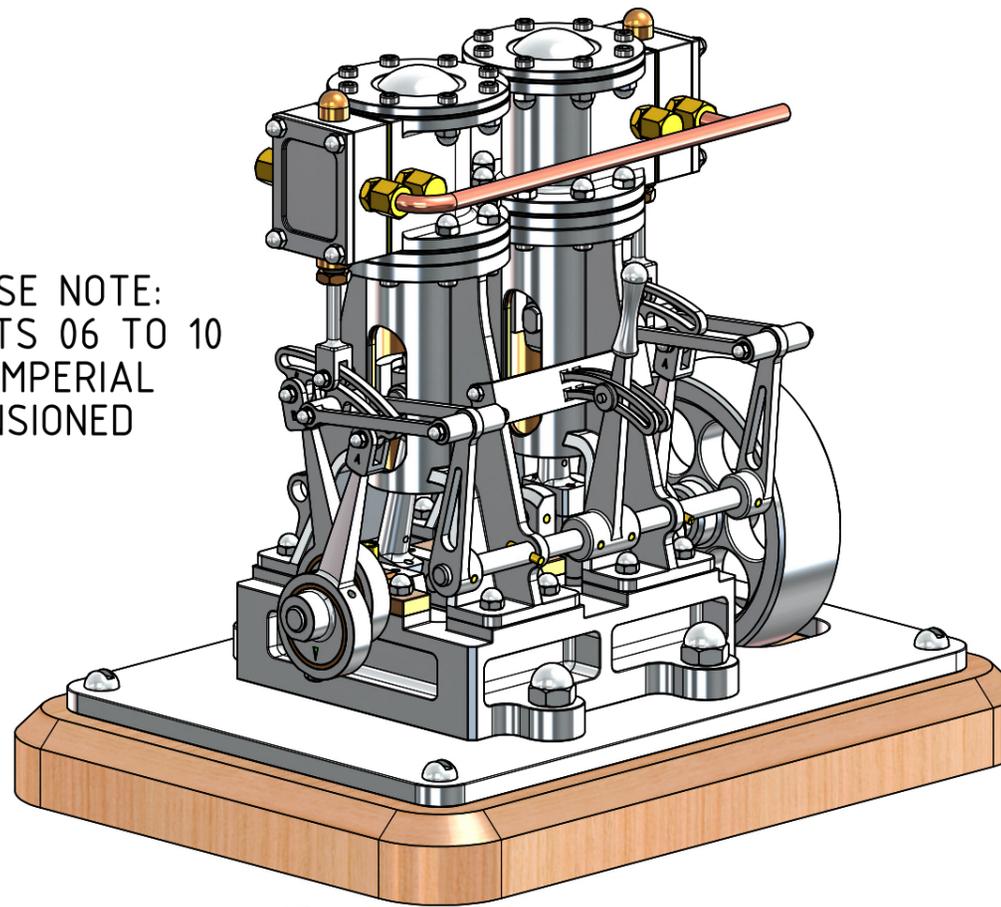


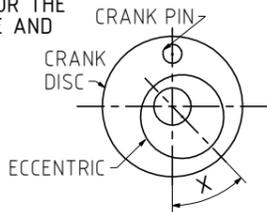
PLEASE NOTE:
SHEETS 06 TO 10
ARE IMPERIAL
DIMENSIONED



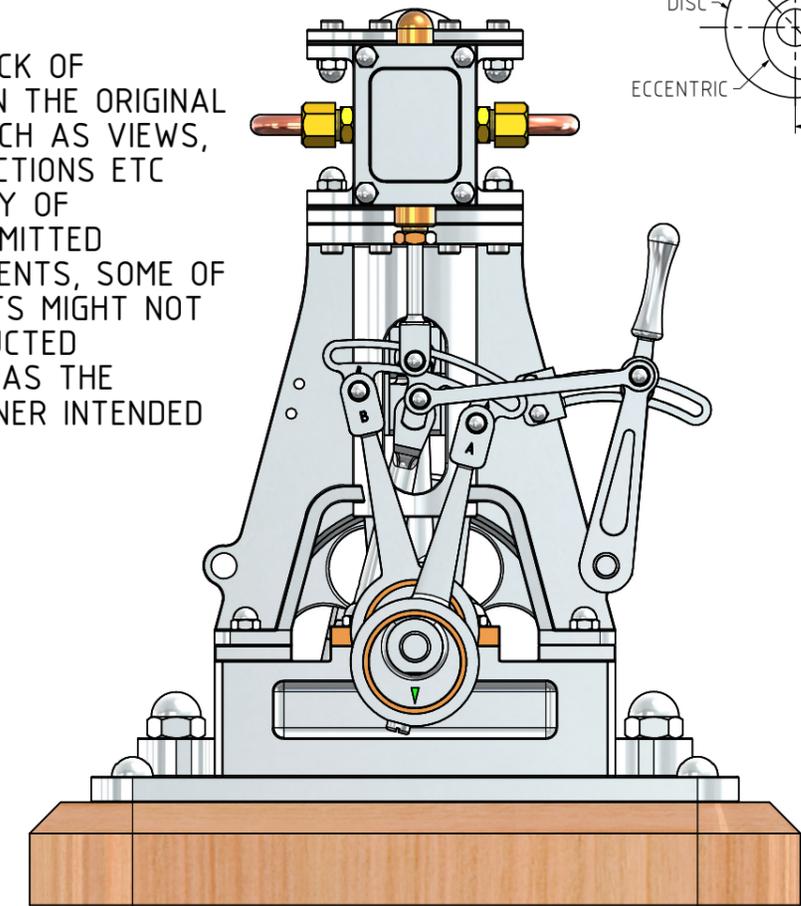
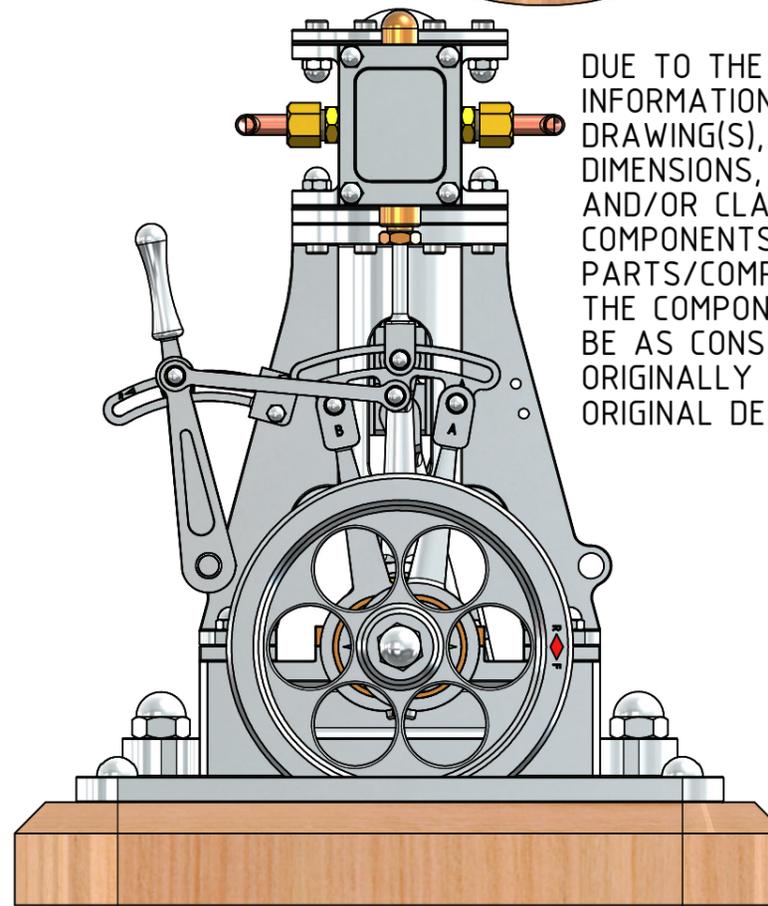
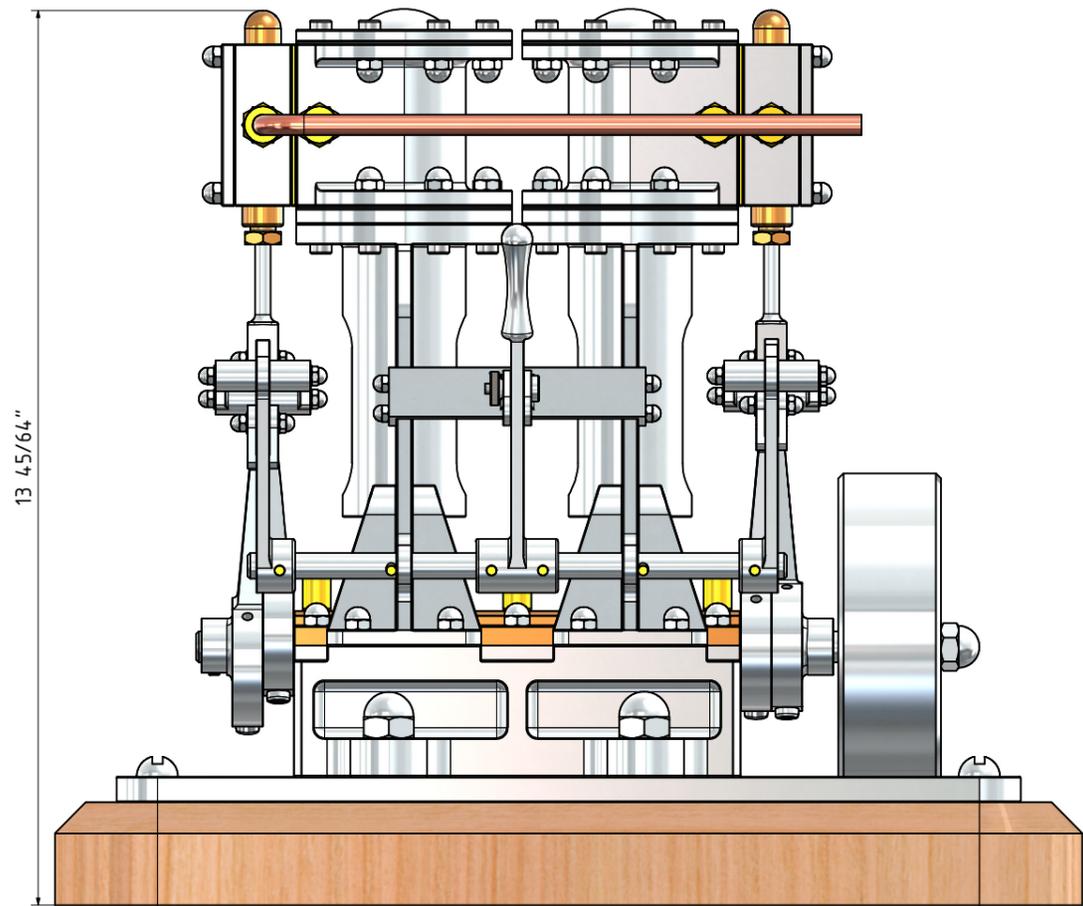
QTY.	PART NUMBER
1	09C-75-00-1-01-BASE BED
2	09C-75-00-1-02-CROSSHEAD TRUNK GUIDE
2	09C-75-00-1-03-CYLINDER+VALVE CHEST
4	09C-75-00-1-04-PIPE NUT
4	09C-75-00-1-05-STOPNUT
1	09C-75-00-1-06-STEAM INLET PIPE
1	09C-75-00-1-07-STEAM EXHAUST PIPE
1	09C-75-00-1-08-REVERSING HANDLE BRACKET
1	09C-75-00-2-01-CRANK SHAFT+FLYWHEEL
2	09C-75-00-2-02-PISTON+CROSSHEAD
2	09C-75-00-2-03-CON-ROD
2	09C-75-00-2-04-ECCENTRICS
2	09C-75-00-2-05-SLIDE VALVE
4	09C-75-00-2-06-ECCENTRIC STRAP
2	09C-75-00-2-07-EXPANSION LINK
1	09C-75-00-2-08-REVERSING SHAFT+HANDLE
4	09C-75-00-2-09-LIFTING LINK

QTY.	PART NUMBER
1	7/16-20UNF DOME NUT
4	7/16-20UNFx1-3/4-ROUND HEAD WOOD SCREW
4	1/2-20UNF DOME NUT
4	1/2-20UNFx1-3/8 A-K C-SINK SCREW
20	3/16 WASHER
4	#10-32UNFx3/8 DOME HEAD SCREW
4	#10-32UNFx1-1/32 A-K CYL HEAD SCREW
4	#10-32UNFx3/16 A-K GRUB SCREW
20	#10-32UNFx1/4 DOME HEAD SCREW
8	1/4-UNC DOME NUT
24	1/4-28UNF DOME NUT
16	1/4-28UNFx5/8 A-K CYL HEAD SCREW
14	1/4-28UNFx5/8 DOME HEAD SCREW
16	1/4-28UNFx1-1/32 A-K CYL HEAD SCREW
4	3/8-16UNC NUT

THE OFF SET ANGLE OF THE ECCENTRIC IN RELATION TO THE CRANK AXIS TO BE EXPERIMENTALLY DETERMINED FOR THE SMOOTH RUNNING OF THE ENGINE AND SATISFACTION OF THE BUILDER



DUE TO THE LACK OF INFORMATION ON THE ORIGINAL DRAWING(S), SUCH AS VIEWS, DIMENSIONS, SECTIONS ETC AND/OR CLARITY OF COMPONENTS, OMITTED PARTS/COMPONENTS, SOME OF THE COMPONENTS MIGHT NOT BE AS CONSTRUCTED ORIGINALLY OR AS THE ORIGINAL DESIGNER INTENDED



NOTES: THE ENGINE SHOWN ON THESE DRAWINGS IS LOOSLY BASED ON SOME DRAWINGS WHICH I FOUND ON THE INTERNET. THE DRAWINGS WERE BY J.GALBA, DATED 13-02-2010. I HAVE DRAWN A SIMILAR ENGINE UNDER PROJECT NUMBER 09C-45-00 DATED MAY 2020

TITLE
2 CYLINDER VERTICAL STEAM ENGINE WITH REVERSER (BORE=1-37/64 STROKE=1-37/64)

DRAWING CONTENTS
GENERAL ARRANGEMENT, ISOMETRIC VIEW, NOTES, BILL OF MATERIALS

PROJECT No 09C-75-00
JDW DRAUGHTING SERVICES
J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPA KURA
2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION
DATE SEPTEMBER 2025
SHEET: 06 OF 10
JDWDS
MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
Copyright © J.A.M. DE WAAL PAPA KURA NZ
A3 No:09C-75-00-SHT-06

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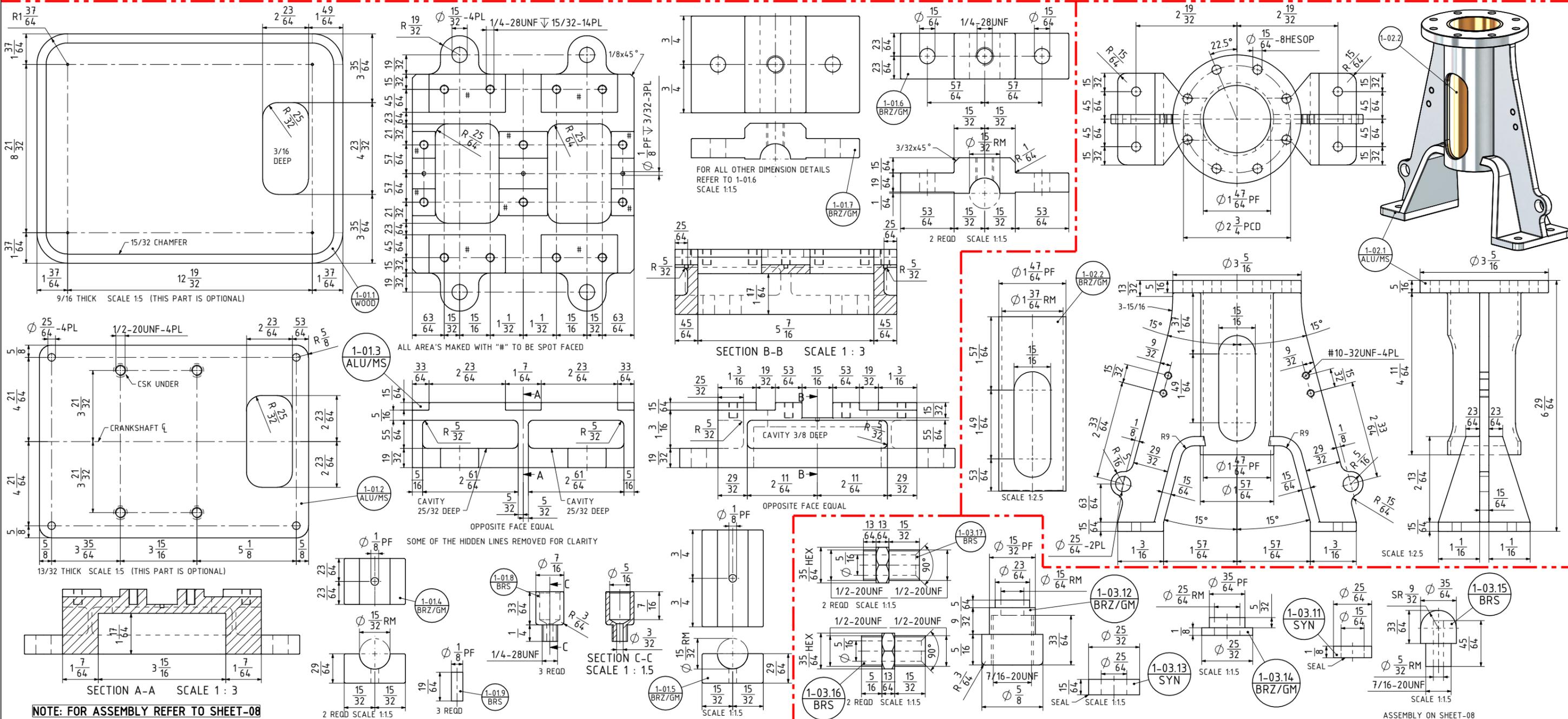
- GENERAL NOTES:
0. ALL DRAWINGS ARE IN IMPERIAL MEASUREMENTS
 1. ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
 2. WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
 3. PREFERABLY ALL TAPPED HOLES AND MATCHING SCREWS AND/OR BOLTS TO BE UNF
 4. MATERIALS SPECIFIED ON THE DRAWINGS ARE INDICATIVE ONLY. THE BUILDER CAN MAKE HIS/HER OWN MATERIAL CHOICE.
 5. ALL CONNECTIONS/JOINTS WHICH HAVE STEAM PRESSURE APPLIED TO IT SHALL BE SILVER/HARD SOLDERED.
 6. COMPRESSION SPRINGS ARE DRAWN IN COMPRESSED STATE (CP), UNCOMPRESSED STATE IS APPROX 40% TO 60% LONGER THEN COMPRESSED STATE.
 7. WHERE PREFERRED SCREW OR RIVETED CONNECTIONS CAN BE OMITTED AND PARTS CAN BE BONDED TOGETHER BY USING EITHER HIGH STRENGTH GLUE, EPOXY RESIN, OR SOLDER.
 8. PARTS WHICH ARE DIRECTLY EXPOSED TO STEAM AND/OR WATER SHOULD BE CONSTRUCTED USING NON-FERROUS OR NON CORROSIVE MATERIAL SUCH AS BRASS, BRONZE, GUNMETAL, STAINLESS STEEL, COPPER OR MONEL.
 9. THE ORDER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED AND THE MODEL IS ASSEMBLED IS ENTIRELY LEFT TO THE BUILDER/MODEL MAKER.
 10. A COLOUR SCHEME FOR THIS PROJECT IS ENTIRELY LEFT UP TO THE MODEL MAKER.
 11. THE MANNER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED IS ENTIRELY LEFT UP TO THE BUILDER.
 12. USE LOCTITE, ON SCREW OR PRESS FIT CONNECTIONS OR SURFACES, WERE DEEMED NECESSARY TO PREVENT PARTS FROM LOOSENING.
 13. WASHERS AND/OR SPRING WASHERS SHALL BE USED WHERE DEEMED NECESSARY.
 14. USE SEALING GASKETS WERE DEEMED NECESSARY.
 15. REMOVE ALL SHARP EDGES
 - XX. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED.

OTHER ABBREVIATIONS

- AS = AS SHOWN
 DP = DEEP
 DAA= DRILL AFTER ASSEMBLY
 D&TAA= DRILL AND TAP AFTER ASSEMBLY
 CF = CLOSE FIT (SIZE FOR SIZE)
 PF = PRESS FIT
 PF AA= PRESS FIT AFTER ASSEMBLY
 PCD = PITCH CIRCLE DIAMETER
 RM = REAM
 HEX = HEXACON, 6SIDED
 CP = COMPRESSED
 KNL = KNURLED
 CSK = COUNTERSINK
 PL = PLACES
 DWL= DOWEL
 SPF= SPOTFACE
 (T)HESOP=(TAPPED)HOLES EQUALLY SPACED ON PCD
 (T)HESOC=(TAPPED)HOLES EQUALLY SPACED ON CIRCUMFERENCE
 OD = OUTSIDE DIAMETER
 ID = INSIDE DIAMETER
 MAX/MIN = CRITICAL DIMENSION
 SA-xxx = SUB ASSEMBLY-xxx

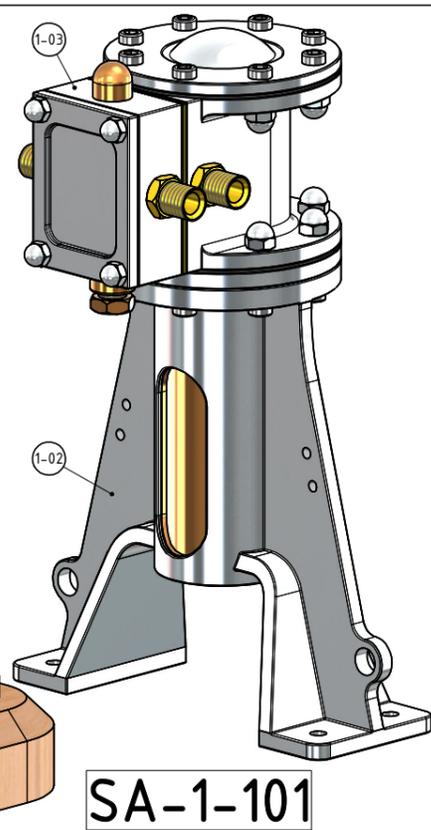
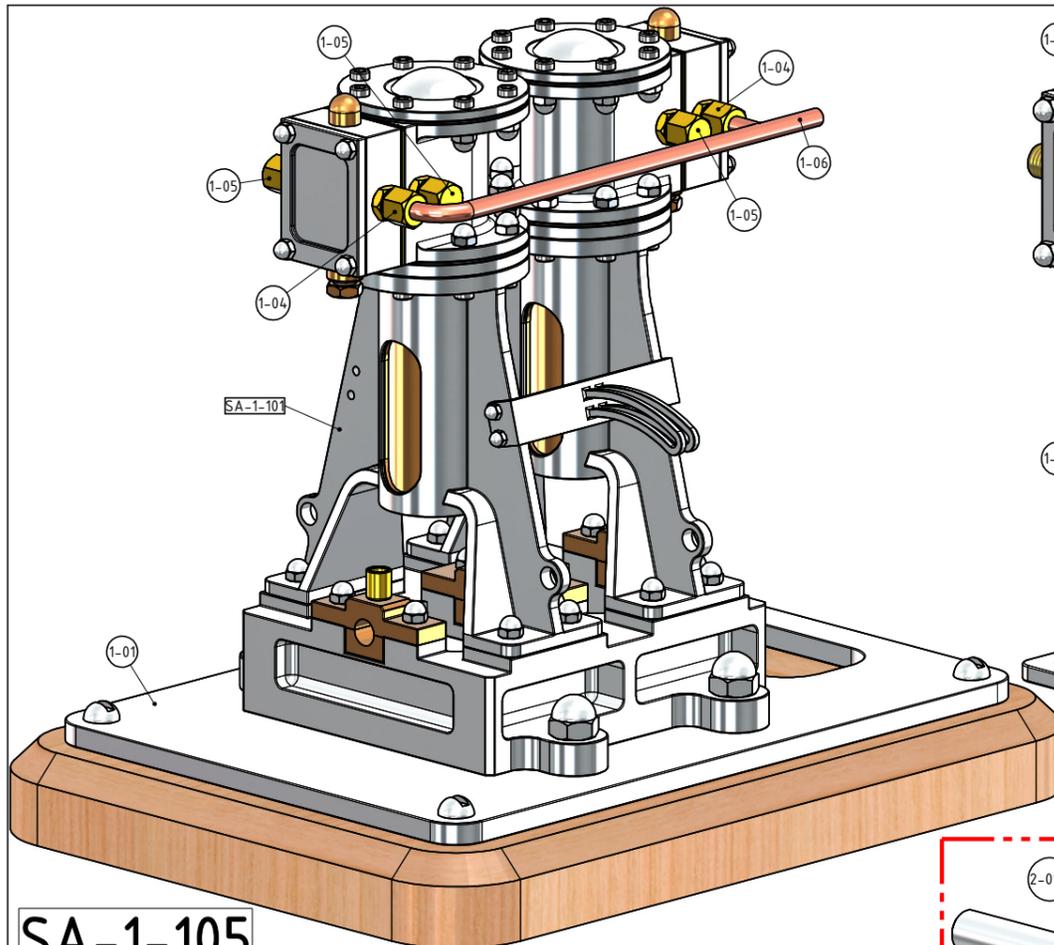
MATERIAL ABBREVIATIONS:

- ALU = ALUMINIUM
 HALU= HARD ALUMINIUM
 BRS = BRASS
 PBRZ= PHOSPHORE BRONZE
 BRZ = BRONZE OR GUNMETAL (BRZ/GM)
 OLT = OILITE
 CI = CAST IRON
 CU = COPPER
 GRA = GRAPHITE
 MS = MILD STEEL/BRIGHT MILD STEEL
 SS = SILVER STEEL OR STAINLESS STEEL
 SPS = SPRING STEEL
 PEEK= POLYETHER ETHER KETONE
 SYN = SYNTHETIC MATERIAL SUCH AS VETON, NYLON, TEFLON OR RUBBER
 IN GENERAL SYNTHETIC MATERIALS SHOULD BE ABLE TO WITHSTAND THE HEAT AND PRESSURE(S) APPLIED TO THEM.
 nnn/nnn MEANS THAT EITHER MATERIAL CAN BE USED



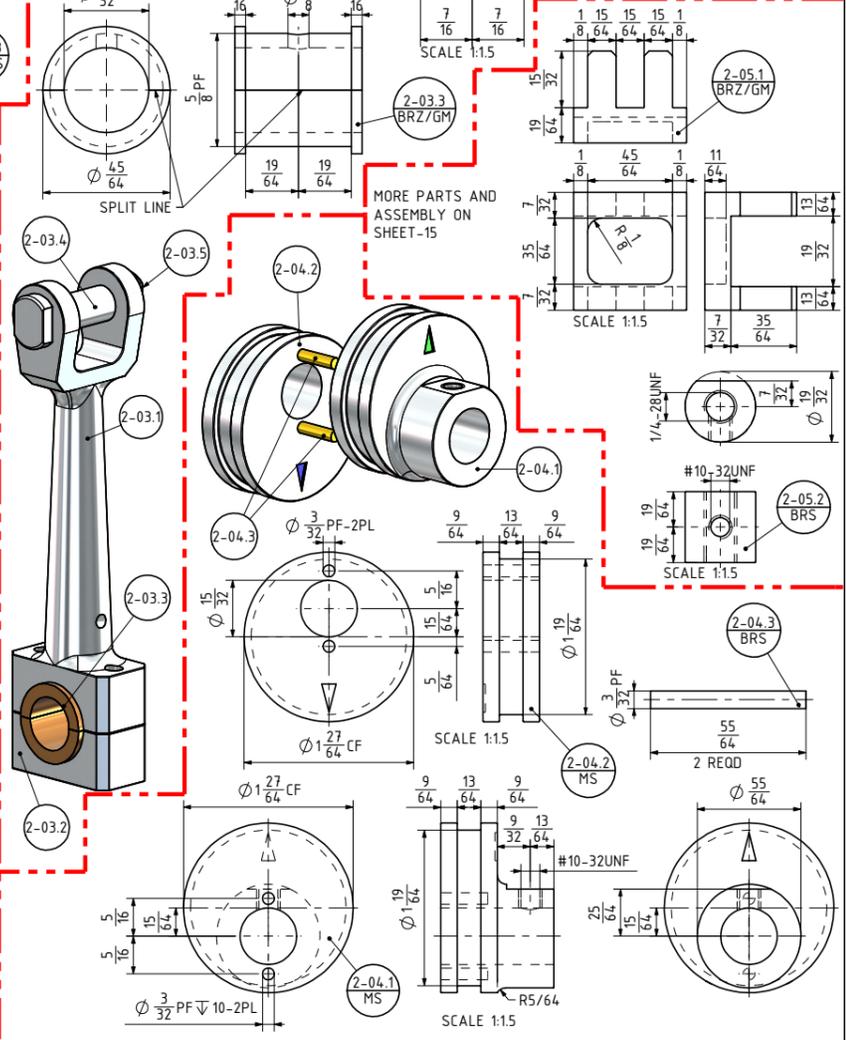
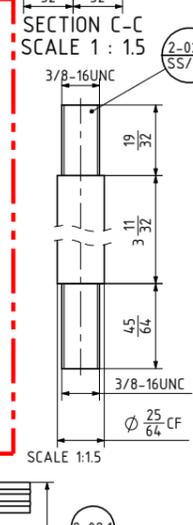
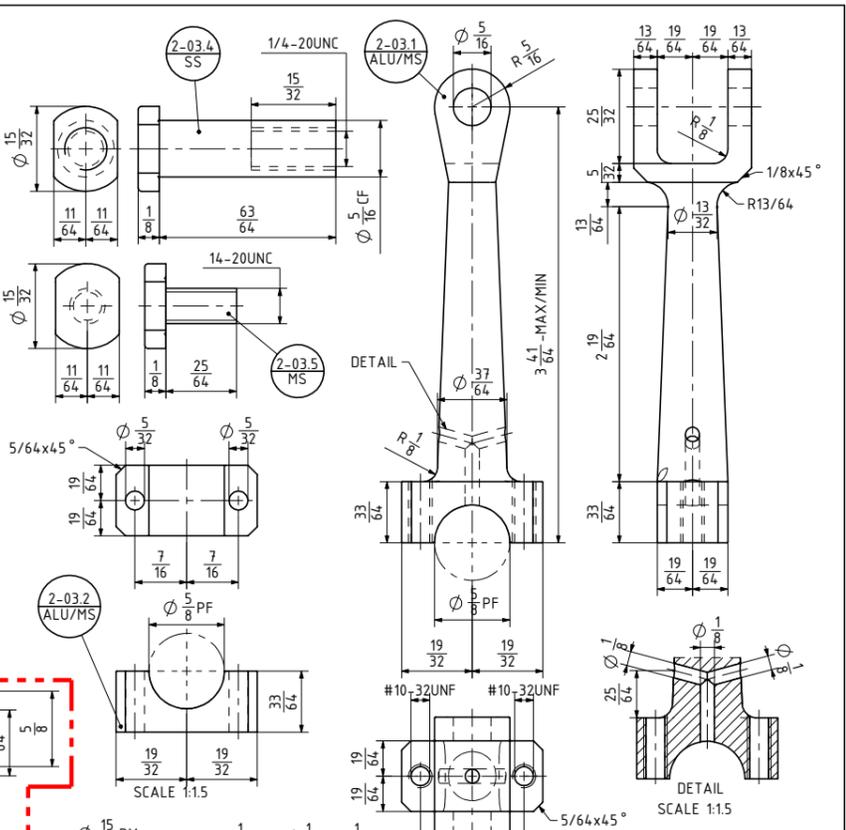
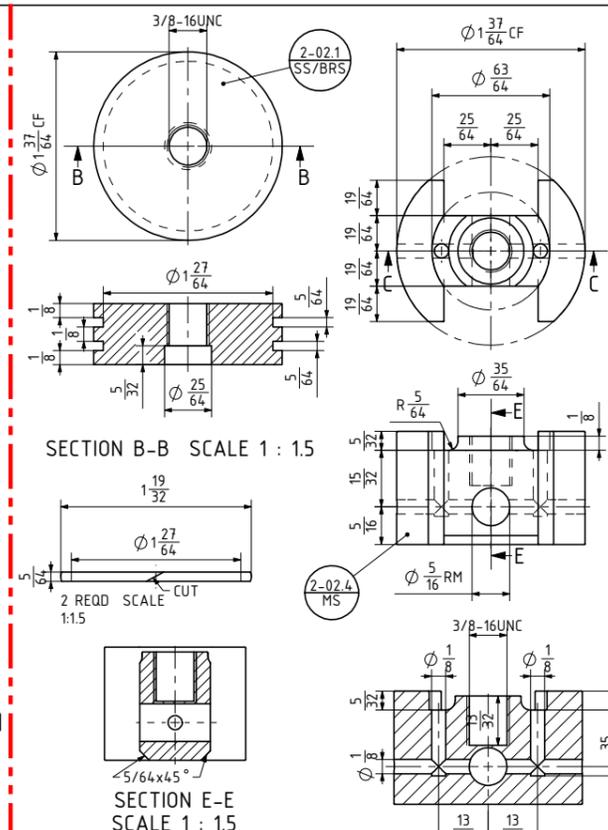
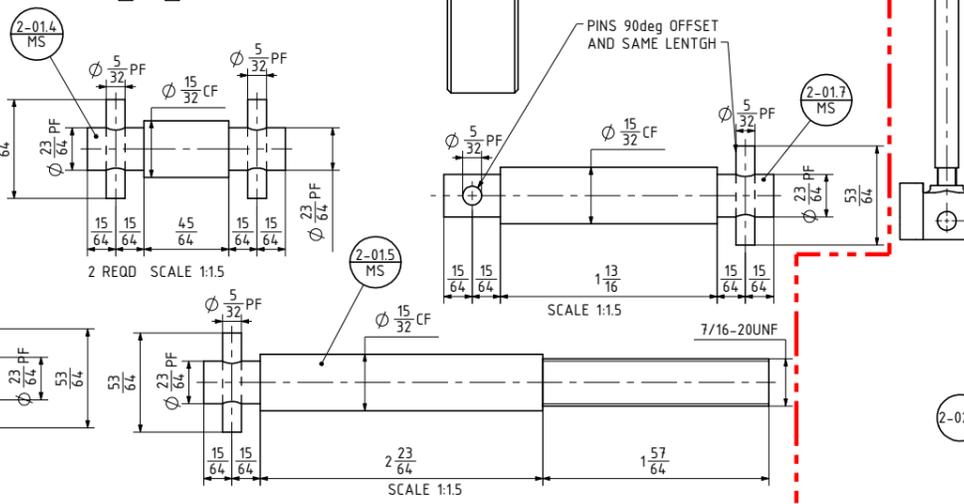
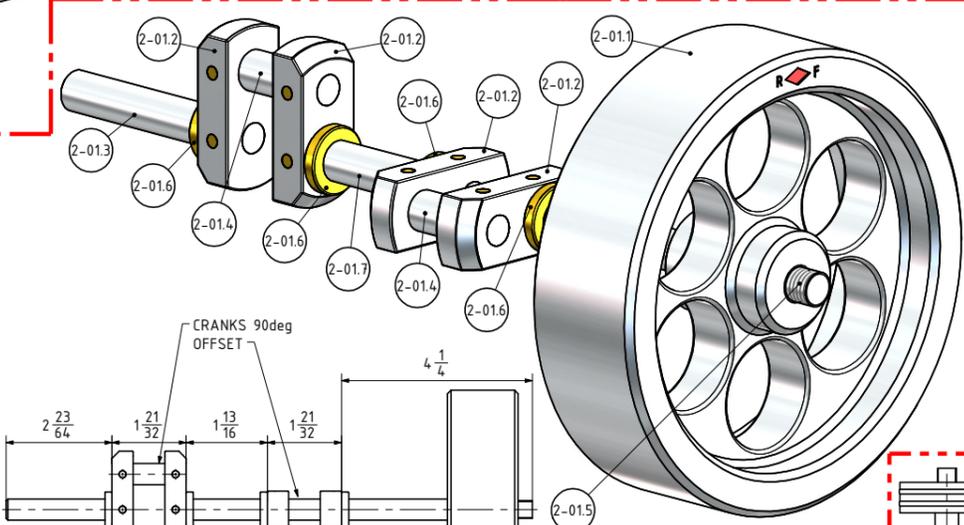
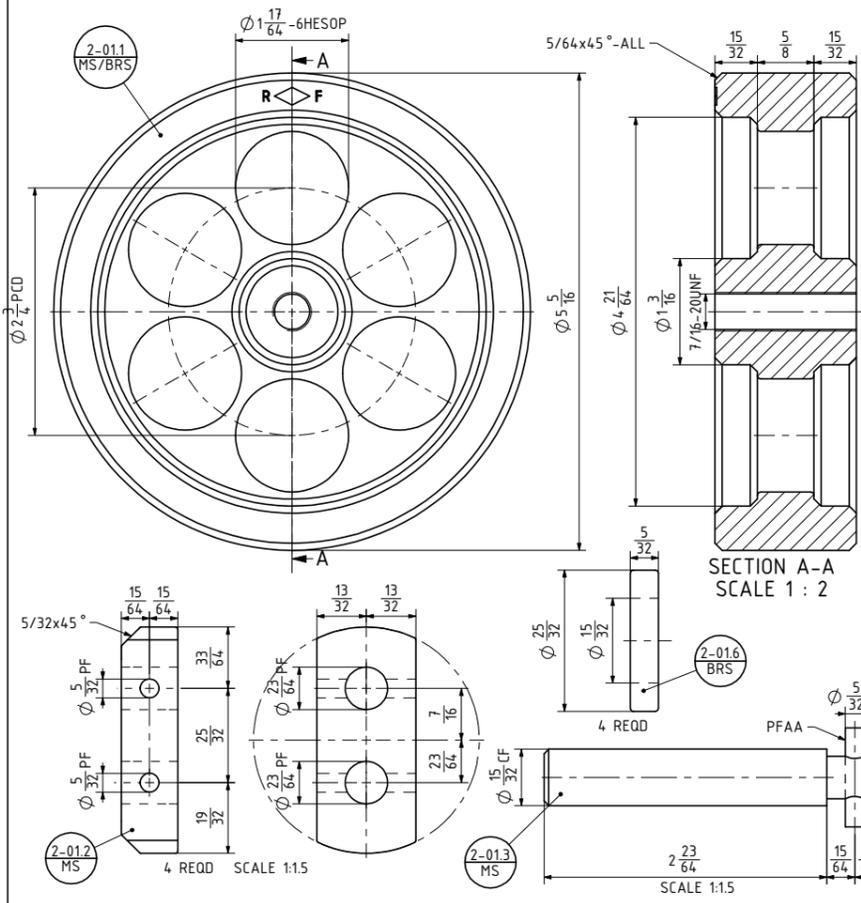
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<p>TITLE 2 CYLINDER VERTICAL STEAM ENGINE WITH REVERSER (BORE=1-37/64 STROKE=1-37/64)</p>	<p>DRAWING CONTENTS PARTS AND ASSEMBLIES, NOTES.</p>	<p>PROJECT No 09C-75-00 JDW DRAUGHTING SERVICES J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.</p>	<p>PROJECTION JDWDS MODEL SCALE: 1:1 DWG SCALE: 1:1 @A3 OR AS SHOWN DATE SEPTEMBER 2025 Copyright © J.A.M. DE WAAL PAPAOKURA NZ SHEET: 07 OF 10 A3 No:09C-75-00-SHT-07</p>
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SA-1-101

SA-1-105



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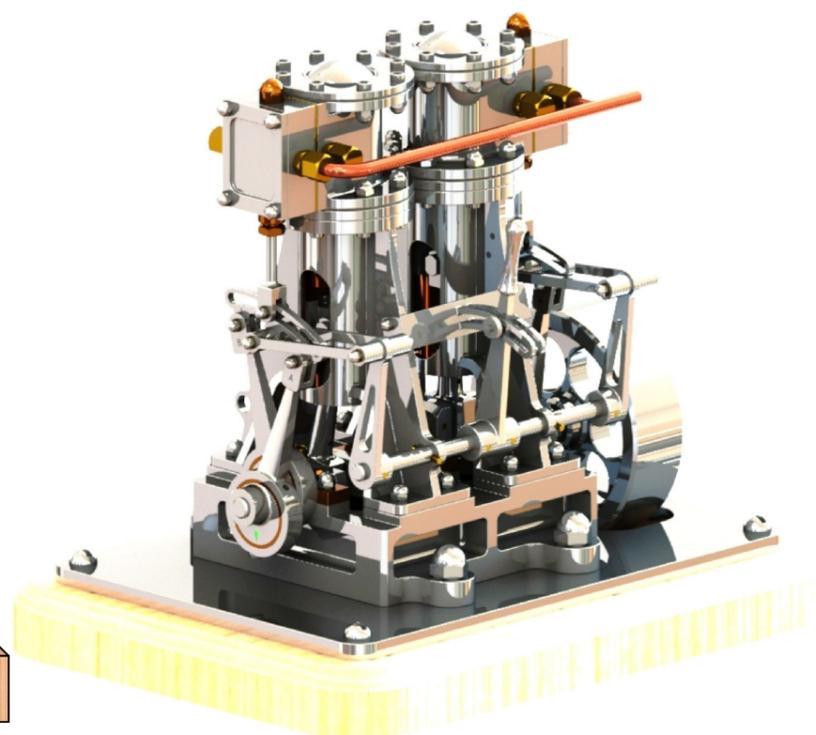
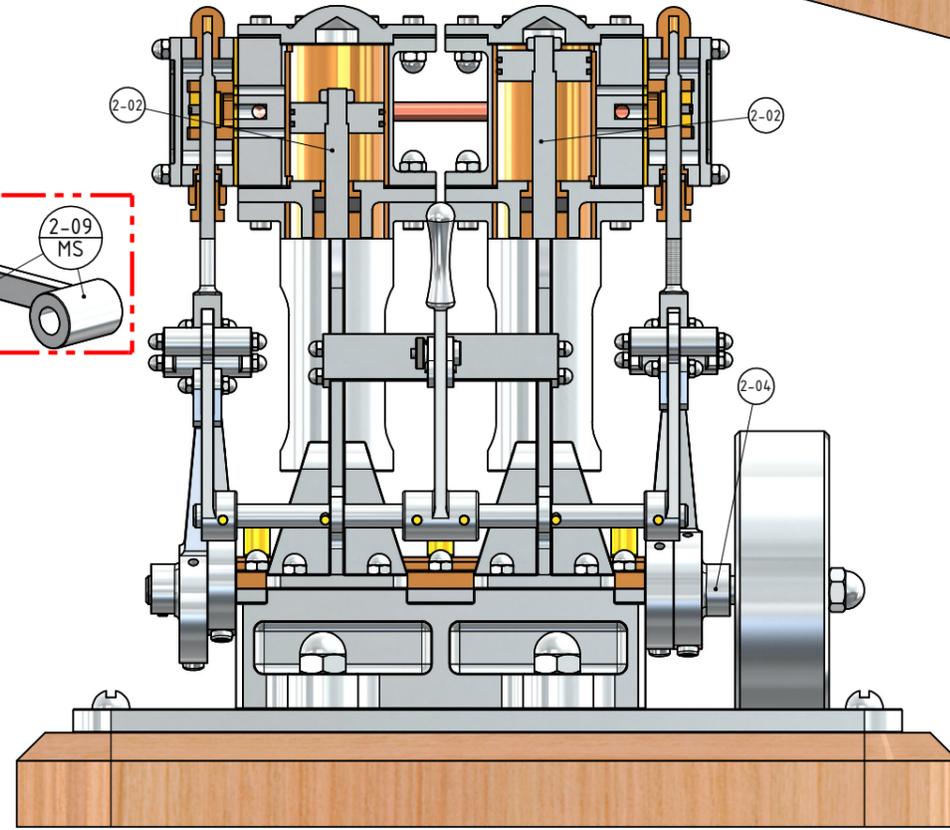
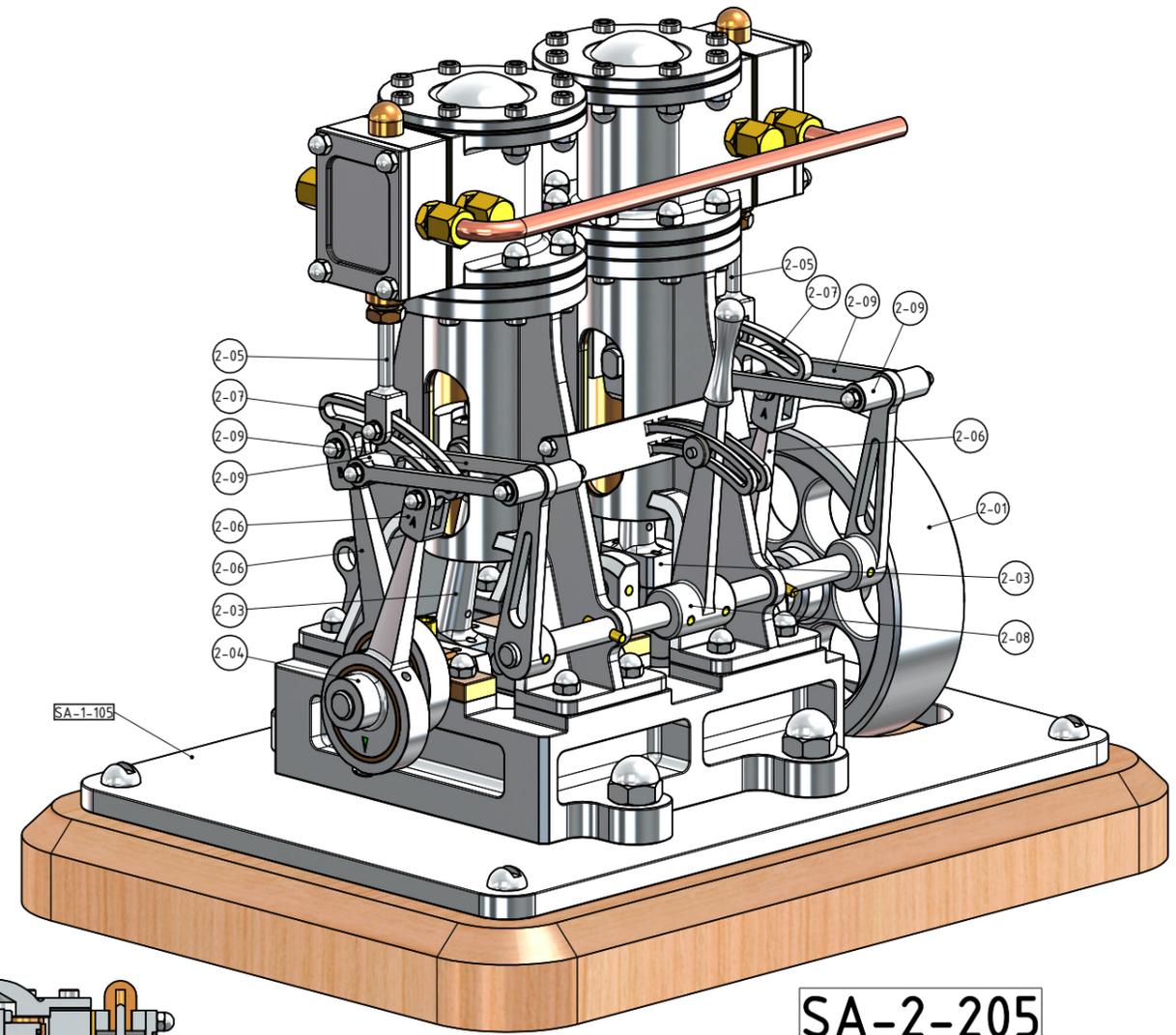
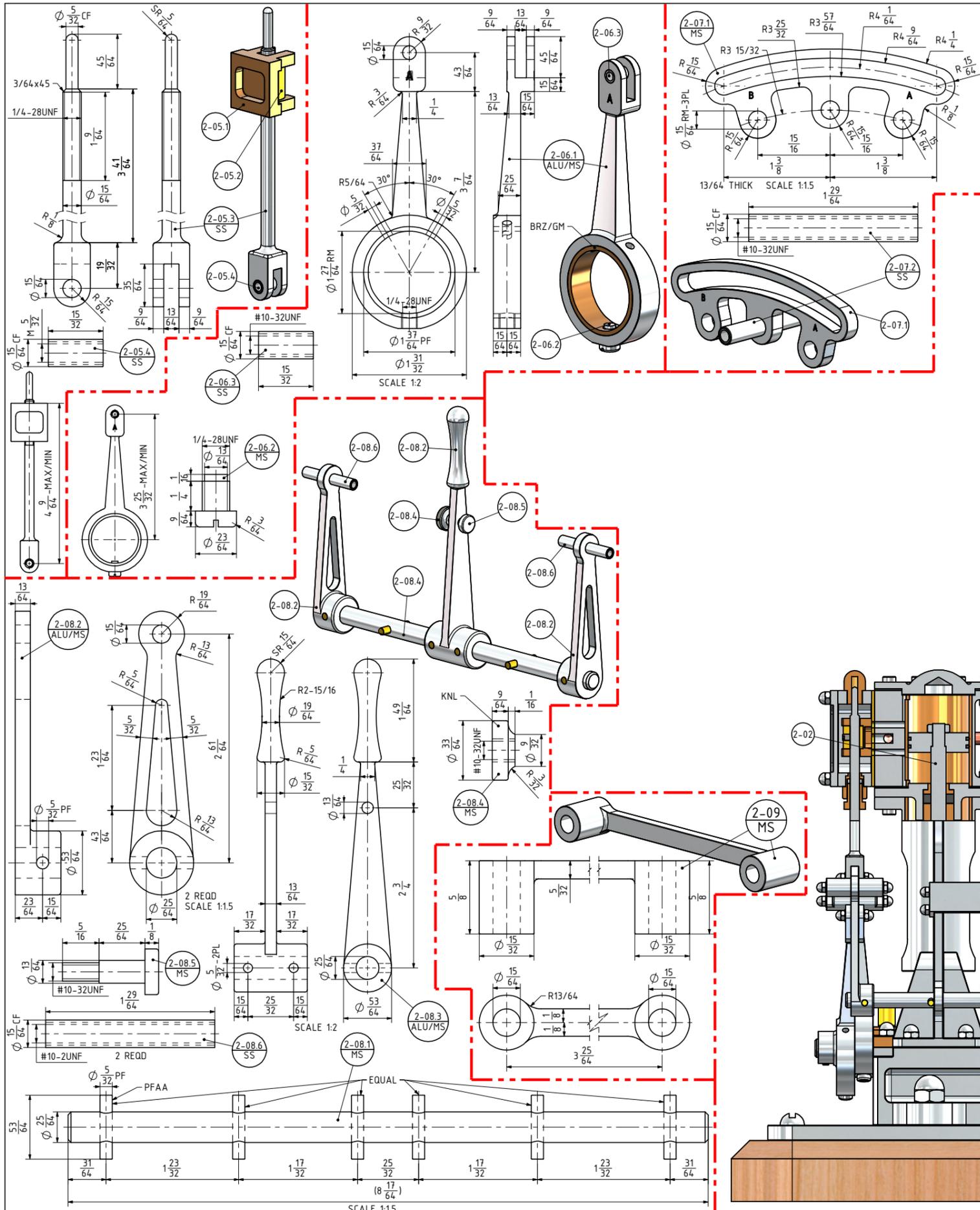
TITLE
2 CYLINDER VERTICAL STEAM ENGINE WITH REVERSER (BORE=1-37/64 STROKE=1-37/64)

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 09C-75-00
 JDW DRAUGHTING SERVICES
 J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA
 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION **JDWDS** MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 DATE SEPTEMBER 2025 Copyright © J.A.M. DE WAAL PAPAOKURA NZ
 SHEET: 09 OF 10 **A3** No:09C-75-00-SHT-09

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TITLE
2 CYLINDER VERTICAL STEAM ENGINE WITH REVERSER (BORE=1-37/64 STROKE=1-37/64)

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 09C-75-00
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 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION	JDWDS	MODEL SCALE: 1:1
DATE	SEPTEMBER 2025	DWG SCALE: 1:1 @A3 OR AS SHOWN
SHEET: 10 OF 10	A3	No:09C-75-00-SHT-10

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